

EMU Electronic AG

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Trends in the power industry

- Power companies strive to become one-source supplier of all energy needs
- Mergers
- Companies offer consulting services to save energy and supplemental services.
- Alliances with companies in other industries.
- New players - energy brokers, AMR companies etc.

Energy Industry Trends

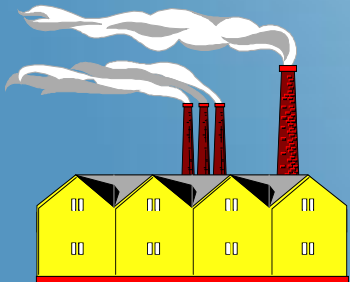
- **Deregulation**
 - increased price competition
 - increased quality competition
 - greater demands on measurement and control
- **Environmental aspects**
 - increased demand on efficiency and control
- **Technical development**
 - increased usage of electronic devices
- **Reliability and Safety demands**
 - increased demand on power, computer reliability and safety

The market in Europe will develop very strong for a long time forward

- Global market leads to growing prices raw material and energy.
- Energy- och climate strategy force measure for control and measurement.

EmuLog

A modern tool in an optimised system to monitor and target energy consumption by accessing data remotely.



Products



EmuLog G2



EmuLog G4T



EmuLog G3T

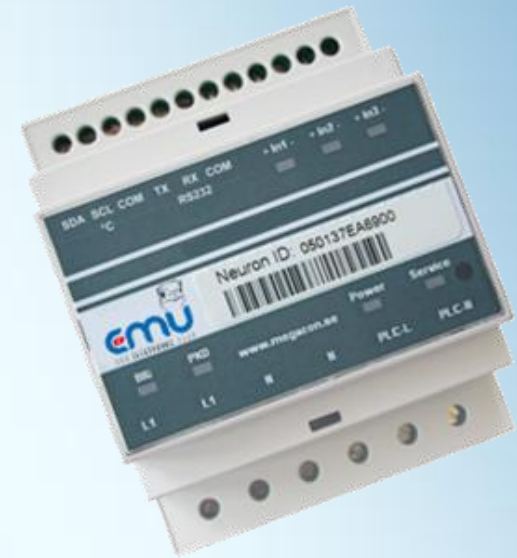
EmuLog G2

- 8 inputs (S0)
- One event input
- One relay output
- Power line communication
- Repeater and package transmission up to 15 steps
- Plug-in to "LonMark For Windows"
- Communication possibilities:
TCP/IP, Phone, GPRS and Radio
- LonWorks™ / LonMarks™
- Storage 8000 time stamped values per individual input.



EmuLog G3T

- 3 inputs (S0)
- Power line communication
- Plug-in to "LonMark For Windows"
- Repeater and package transmission up to 15 steps
- Communication possibilities:
TCP/IP, Phone, GPRS and Radio
- LonWorks™ / LonMarks™
- Storage 21000 time stamped values per individual input.
- Temperature input.



EmuWeb G4T*

- Ethernet connection 10/100 Mbps
- Flexible storage 2-32 GB
- Storage capacity for 400 inputs, 15 years data hourly data
- 4 x S0-pulse inputs with individual LED indication, Class B, flexible time base
- 1 x Temperature input, Pt1000



*available in 2011

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chart by amCharts.com

Monthly 2010

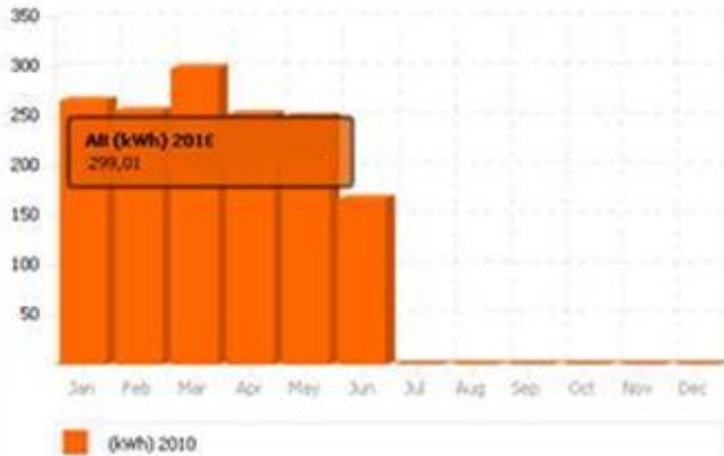
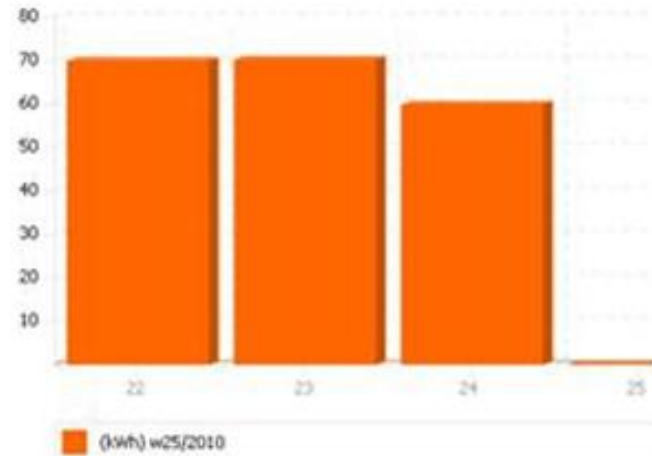


chart by amCharts.com

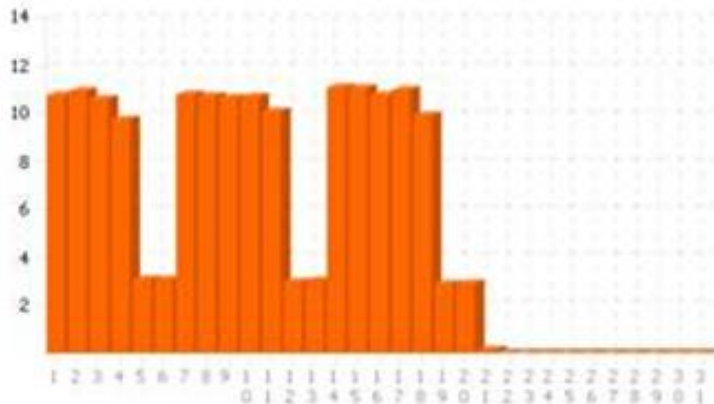
Weekly 2010 w25



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chart by amCharts.com

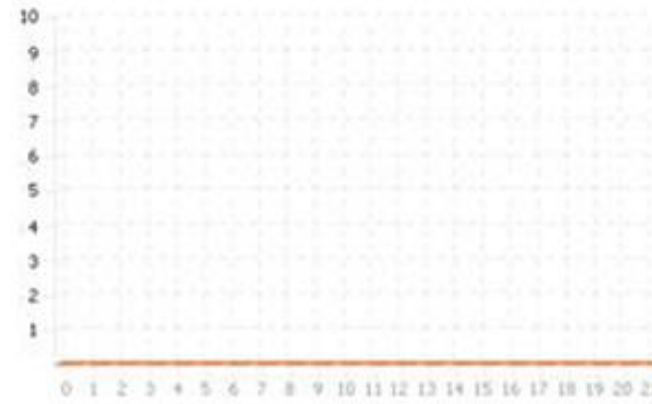
Daily Jun/2010



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chart by amCharts.com

Hourly 22/ Jun/2010





Options Search...

- EMUAG
 - Electrical meter
 - Temperature

Zoom out Export to Excel From 2010-08-04 To 2010-08-04 Show

Date	Meter reading	Consumption	Unit
2010-08-01	66.3	14.1	kWh
2010-08-02	80.4	14.1	kWh
2010-08-03	94.5	14	kWh
2010-08-04	108.5	5.7	kWh

- EMUAG
 - EMUAG
 - Electrical meter
 - Temperature

Zoom out | Export to Excel | From 2010-08-04 To 2010-08-04 Show

Date	Meter reading	Consumption	Unit
2010-08-04 00:00:00	0	0.6	kWh
2010-08-04 01:00:00	108.5	0.5	kWh
2010-08-04 02:00:00	109.1	0.6	kWh
2010-08-04 03:00:00	109.6	0.6	kWh
2010-08-04 04:00:00	110.2	0.5	kWh
2010-08-04 05:00:00	110.8	0.6	kWh
2010-08-04 06:00:00	111.3	0.6	kWh
2010-08-04 07:00:00	111.9	0.5	kWh
2010-08-04 08:00:00	112.5	0.6	kWh
2010-08-04 09:00:00	113	0.6	kWh
2010-08-04 10:00:00	113.6	0	kWh

Print date 2010-08-04

Customer
Contract number
Property description
Reader

Consumption period

	Date	Meter reading	
From	2010-07-04	6	kWh
To	2010-08-04	114	kWh

Factor: 1			
Meter	Consumption	Period	
	108 kWh	32 days	

Cost

Product	Consumption	Price	Total
El	108 kWh	1	108 CHF

Comments



Customers

- **Utilities**
- **Industries**
- **Domestic apartments, houses**
- **Commercial buildings**

Functionality and Possibilities?

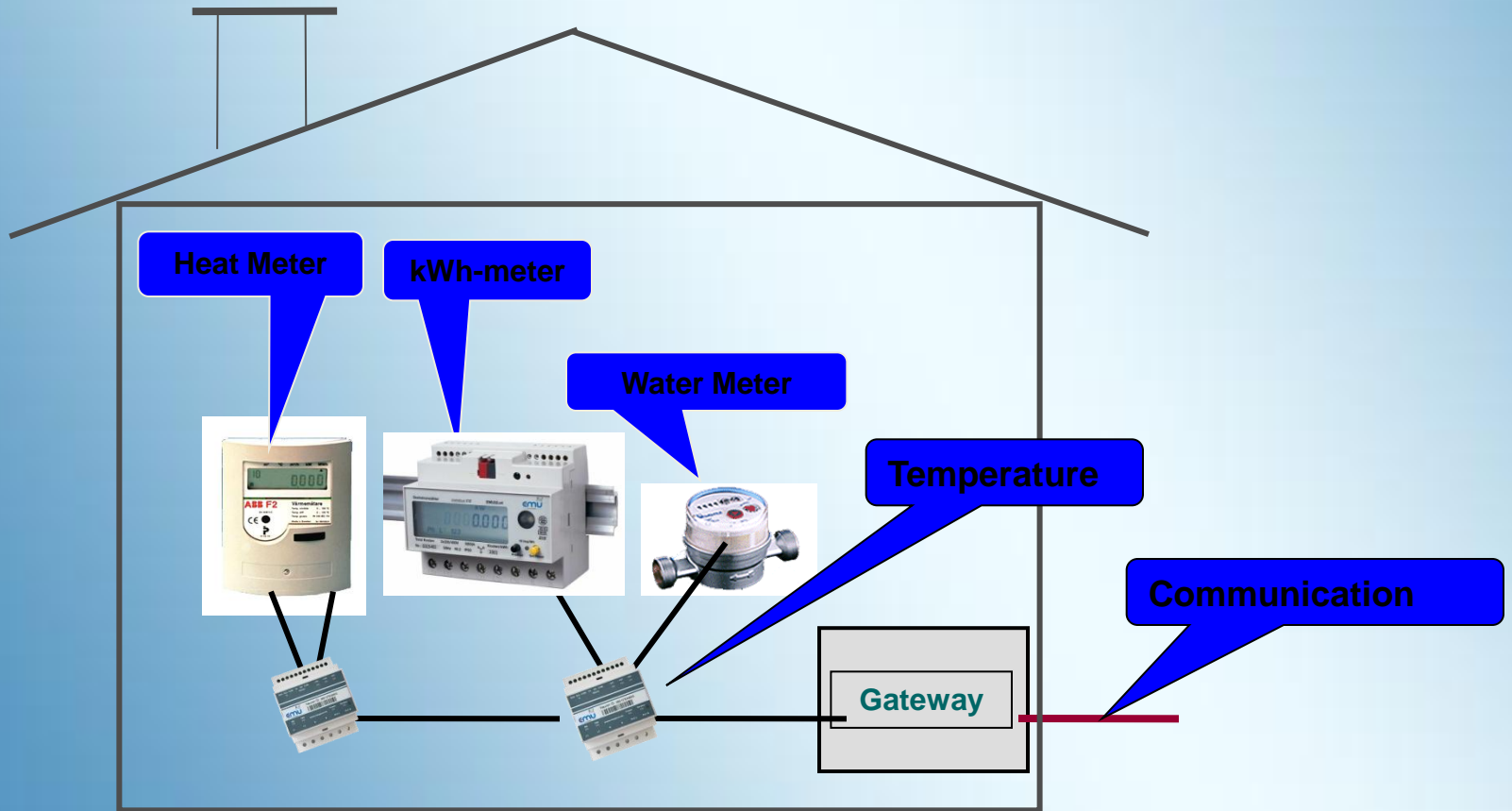
- Data collection system for industries, buildings and domestic properties.
- Can measure:
 - Electricity
 - Water
 - District heating
 - Gas
 - Oil
- Data storage time: minutes, hours, days or/and months.

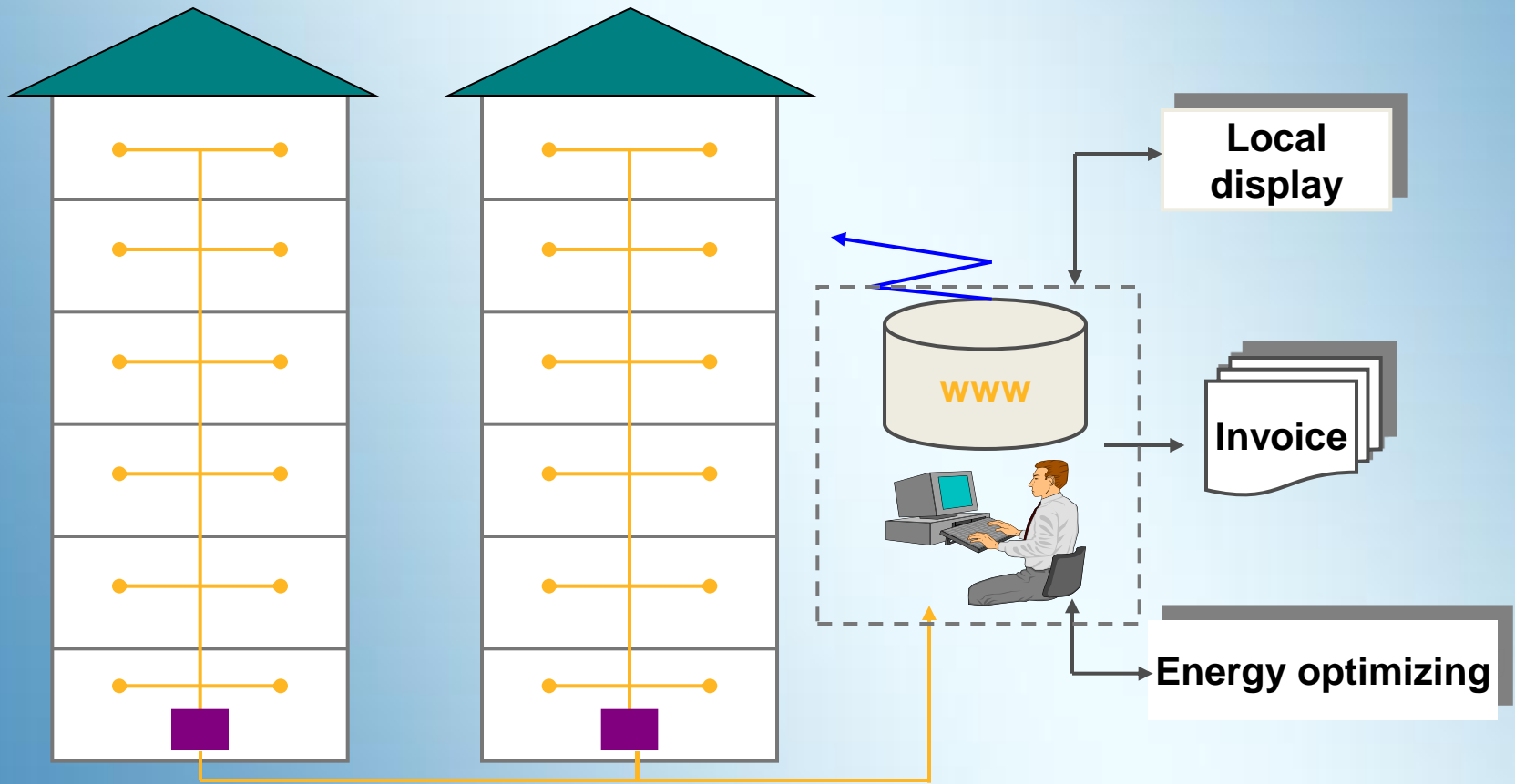
Customer Advantages

- Time saving
- Energy saving
- Sub Metering
- Easier electricity trading
- Eliminates manual meter reading errors
- Simple to share loads

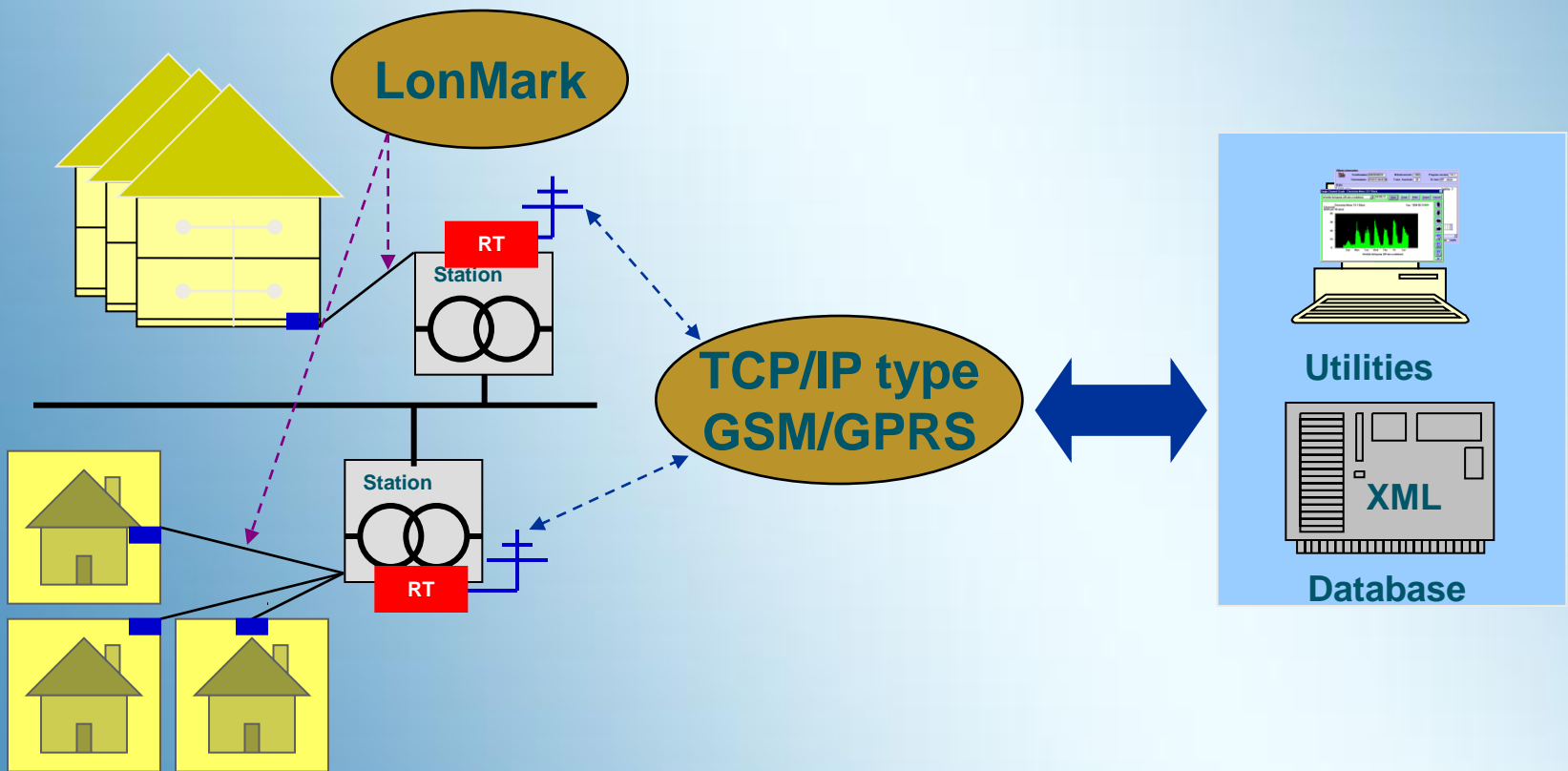


Local to the Meter





AMR EmuLog



References



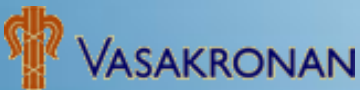
Martin Olsson



KANTHAL



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THE UNIPART GROUP OF COMPANIES



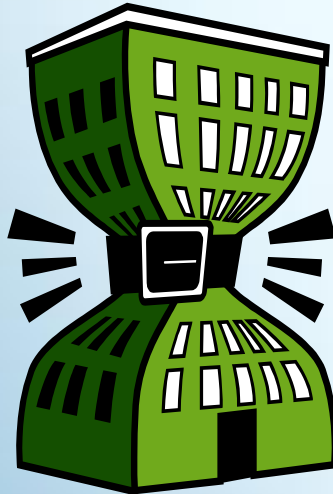


Energy / Power

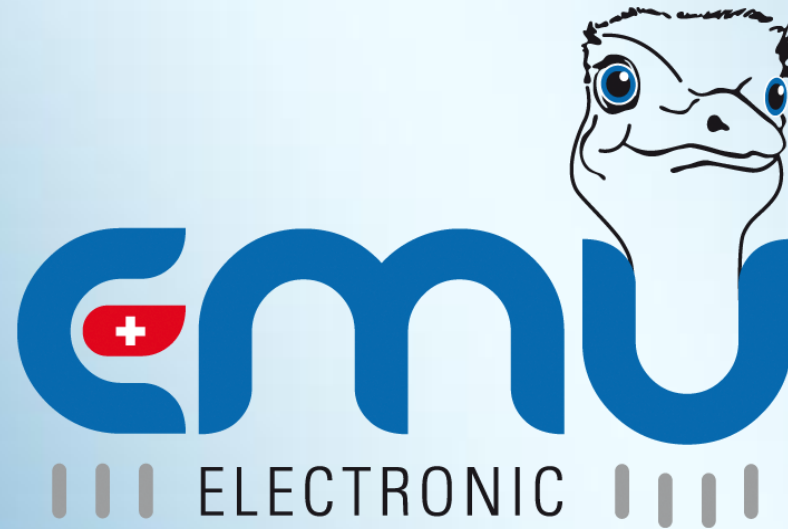
- There is not an Energy problem in the world. It is a **Power** problem.
- We will not be able to reduce costs only by **changing Energy supplier**.
- We must optimise our systems to save **Energy** and **Power**.
- To do all this we need to **measure historical consumptions** and look at **profiles** for the consumption in **real time**.

Conclusion

Surveying your energy consumption correctly
leads to great savings



**The best and cheapest kWh is the
one that not consumed!**



Quality, that counts – Made in Switzerland

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